



Serial No. 10/734,366

Notice to File Missing Parts dated March 8, 2004

Reply to Notice to File Missing Parts dated May 7, 2004

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Substitute Listing of Claims:**

1. A method of displaying data from a relational database comprising the steps of
  - a. Providing at least two libraries of data from different sources;
  - b. Identifying clusters of related data by comparing the data of each library;
  - c. Providing a multi-dimensional display comprising a figure having loci distributed about the periphery thereof wherein each locus is identified with one data library; and
  - d. Plotting a symbol for each cluster within the multidimensional figure based on a set of coordinates within said multi-dimensional display, wherein said coordinates are a function of a specific comparative analysis applied to said data libraries which contributed data to said cluster.
2. The method of claim 1, wherein the comparative analysis includes the number of said data libraries which contribute data to said cluster.
3. The method of claim 1, wherein the comparative analysis includes the amount of data from each library which contributes to said cluster.
4. The method of claim 1, wherein the comparative analysis includes the percentage of data from each library that contributes to said cluster.
5. A method of comparing data libraries containing data represented as alphanumeric characters comprising the steps of
  - a. identifying at least two data libraries containing alphanumeric characters;
  - b. comparing said data libraries for common alphanumeric characters;
  - c. generating a symbol which represents the results of said data comparison;

- d. providing a multi-dimensional display for plotting said symbol, said display comprising a figure having M loci distributed about the periphery thereof wherein each locus is identified with one data library; and
  - e. plotting the symbol within the multidimensional figure based on a set of coordinates within said multi-dimensional display, wherein said coordinates are a function of a specific comparative analysis applied to said data libraries.
- 6. The method of claim 5, wherein said comparative analysis includes the number of libraries contributing data to said results.
- 7. The method of claim 5, wherein the comparative analysis includes the amount of data from each library which contributes to said results.
- 8. The method of claim 5, wherein the comparative analysis includes the fraction of total data from each library that contributes to said results.
- 9. A method for displaying data from a relational database of EST libraries comprising the steps of
  - a. providing a plurality of EST libraries;
  - b. identifying contigs by comparing the ESTs of said plurality of EST libraries;
  - c. providing a multi-dimensional display comprising a figure having loci distributed about the periphery thereof, wherein each locus is associated with one of said libraries;
  - d. plotting a symbol for each contig within the multidimensional display based on a set of coordinates within said multi-dimensional display, wherein each symbol is disposed within the figure at a point within an area between the loci associated with the libraries which contributed to said contig.

Serial No. 10/734,366

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10. The method of Claim 9, wherein said coordinates are determined as a function of the number of said libraries which contributed ESTs to said contig.
11. The method of Claim 9, wherein said coordinates are determined as a function of the proportion of ESTs in said contig contributed by each of said libraries.
12. The method of Claim 9, wherein said coordinates are determined as a function of the number of ESTs in said contig from a given library relative to the total number of ESTs in said library.
13. The method of Claim 9, and further comprising selecting a subset of said libraries distributed about the periphery of said multi-dimensional display and repeating steps (b) through (d).
14. The method of Claim 9, and further comprising rearranging said libraries distributed about the periphery of said multi-dimensional display and repeating steps (b) through (d).
15. The method of Claim 9 wherein said libraries are selected from one or more libraries based on species, cultivar, tissue, developmental stage, or stress condition.
16. A computer program for conducting a search for and plotting of alphanumeric data, the computer program being stored on a computer readable medium or transmitted by a propagated signal and comprising:
  - a. A receiving code segment that causes the computer to receive input including one or more search criteria for at least one searchable alphanumeric character in a data library containing alphanumeric characters;
  - b. An assigning code segment that causes the computer to assign a value to each alphanumeric character; and

Serial No. 10/734,366

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- c. A plotting code segment that causes the computer to plot the input on a visual display, said plot relating to said value assigned to the alphanumeric character.
- 17. The computer program of claim 16 wherein the receiving code segment receives input for alphanumeric characters that correspond to at least one contig.
- 18. The computer program of claim 17 wherein the value assigned to the contig is dependent on the number of libraries that contribute at least one EST to said contig.
- 19. The computer program of claim 17 wherein the value assigned to the contig is dependent on the total number of ESTs that contribute to said contig.
- 20. The computer program of claim 17 wherein the value assigned to the contig is dependent on the fraction of ESTs from a given library that contributes ESTs to said contig.
- 21. The computer program of claim 18 wherein the plotting code segment plots a plurality of contigs on a visual display thus enabling a computer user to see relationships between and among said plotted contigs.
- 22. The computer program of claim 19 wherein the plotting code segment plots a plurality of contigs on a visual display thus enabling a computer user to see relationships between and among said plotted contigs.
- 23. The computer program of claim 20 wherein the plotting code segment plots a plurality of contigs on a visual display thus enabling a computer user to see relationships between and among said plotted contigs.

Serial No. 10/734,366

Notice to File Missing Parts dated March 8, 2004

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24. A system for plotting and manipulating data points, the system comprising:
  - a. A computer program stored on computer readable medium, said program capable of searching, retrieving, and plotting data represented in alphanumeric form;
  - b. Computer means capable of operating said computer program;
  - c. Graphical display means, capable of displaying said data using a plurality of colors.
25. The system of claim 24, wherein the computer program searches, retrieves, and plots contigs assembled from libraries containing EST data.
26. The system of claim 25, wherein the plotting of each contig depends on a value assigned to that contig by said computer program, said value being a function of the number of libraries that have contributed to said contig.
27. The system of claim 25, wherein said value assigned to each contig is a function of the number of ESTs from all libraries that have contributed to said contig.
28. The system of claim 25 wherein said value assigned to each contig is a function of the percentage of ESTs in a given library that has contributed data to said contig.